

## Claims

What is claimed is:

- 1           1.     A method for implementing dynamic cosimulation comprising  
2     the steps of:  
3           utilizing a cosimulation bridge for data exchange between a primary  
4     simulator and a secondary simulator;  
5           defining a plurality of user selected optimization control signals over  
6     said cosimulation bridge;  
7           identifying at least one user selected optimization control signal for  
8     disabling said cosimulation bridge; and  
9           dynamically disengaging said primary simulator and said secondary  
10    simulator for ending data exchange responsive to said disabling said  
11    cosimulation bridge.
- 1           2.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 further includes the steps of checking whether said identified at least  
3     one user selected optimization control signal for disabling said cosimulation  
4     bridge remains active; and responsive to said identified at least one user  
5     selected optimization control signal being inactive for enabling said  
6     cosimulation bridge.
- 1           3.     A method for implementing dynamic cosimulation as recited in  
2     claim 2 further includes the steps of dynamically re-engaging said primary  
3     simulator and said secondary simulator for said data exchange responsive to  
4     said enabling said cosimulation bridge.
- 1           4.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 wherein the step of defining a plurality of user selected optimization  
3     control signals over said cosimulation bridge includes the steps of defining a  
4     single sided disable; said single sided disable defining a disable control  
5     signal for one of said primary simulator or said secondary simulator.

1           5.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 wherein the step of defining a plurality of user selected optimization  
3     control signals over said cosimulation bridge includes the steps of defining a  
4     two independent disable; said two independent disable defining a respective  
5     disable control signal for each of said primary simulator and said secondary  
6     simulator.

1           6.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 wherein the step of defining a plurality of user selected optimization  
3     control signals over said cosimulation bridge includes the steps of defining a  
4     functional OR disable; said functional OR disable defining a common disable  
5     for both said primary simulator and said secondary simulator; either said  
6     primary simulator or said secondary simulator activating a functional OR  
7     disable to activate said common disable.

1           7.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 wherein the step of defining a plurality of user selected optimization  
3     control signals over said cosimulation bridge includes the steps of defining a  
4     functional AND disable; said functional AND disable defining a common  
5     disable for both said primary simulator and said secondary simulator; both  
6     said primary simulator and said secondary simulator activating a functional  
7     AND disable to activate said common disable.

1           8.     A method for implementing dynamic cosimulation as recited in  
2     claim 1 wherein the step of defining a plurality of user selected optimization  
3     control signals over said cosimulation bridge includes the steps of defining a  
4     suspend signal for each of said primary simulator and said secondary  
5     simulator.

1           9.     Apparatus for implementing dynamic cosimulation comprising:  
2               a cosimulation bridge for data exchange between a primary simulator  
3     and a secondary simulator;  
4               a plurality of user selected optimization control signals defined over  
5     said cosimulation bridge;  
6               a control program for identifying at least one user selected  
7     optimization control signal for disabling said cosimulation bridge; and for  
8     dynamically disengaging said primary simulator and said secondary  
9     simulator for ending data exchange responsive to said disabling said  
10    cosimulation bridge.

1           10.    Apparatus for implementing dynamic cosimulation as recited in  
2     claim 9 wherein said control program for identifying said identified at least  
3     one user selected optimization control signal being deactivated for enabling  
4     said cosimulation bridge and dynamically re-engaging said primary simulator  
5     and said secondary simulator for data exchange.

1           11.    Apparatus for implementing dynamic cosimulation as recited in  
2     claim 9 wherein said plurality of user selected optimization control signals  
3     defined over said cosimulation bridge include a plurality of disable control  
4     signals and a plurality of suspend signals.

1           12.    Apparatus for implementing dynamic cosimulation as recited in  
2     claim 9 wherein said plurality of user selected optimization control signals  
3     defined over said cosimulation bridge include a single sided disable; said  
4     single sided disable for defining a disable control signal for one of said  
5     primary simulator and said secondary simulator.

1           13.    Apparatus for implementing dynamic cosimulation as recited in  
2     claim 9 wherein said plurality of user selected optimization control signals  
3     defined over said cosimulation bridge include a two independent disable;  
4     said two independent disable for defining a respective disable control signal  
5     for each of said primary simulator and said secondary simulator.

1           14.   Apparatus for implementing dynamic cosimulation as recited in  
2 claim 9 wherein said plurality of user selected optimization control signals  
3 defined over said cosimulation bridge include a functional OR disable; said  
4 functional OR disable for defining a common disable for both said primary  
5 simulator and said secondary simulator; said common disable being  
6 activated responsive to a functional OR disable control from either said  
7 primary simulator or said secondary simulator.

1           15.   Apparatus for implementing dynamic cosimulation as recited in  
2 claim 9 wherein said plurality of user selected optimization control signals  
3 defined over said cosimulation bridge include a functional AND disable; said  
4 functional AND disable for defining a common disable for both said primary  
5 simulator and said secondary simulator; said common disable being  
6 activated responsive to a functional AND disable control from both said  
7 primary simulator and said secondary simulator.

1           16.   Apparatus for implementing dynamic cosimulation as recited in  
2 claim 9 wherein said plurality of user selected optimization control signals  
3 defined over said cosimulation bridge include a suspend signal for defining a  
4 respective suspend control signal for each of said primary simulator and said  
5 secondary simulator.

1           17.   A computer program product for implementing dynamic  
2 cosimulation in a computer system including a cosimulation bridge for data  
3 exchange between a primary simulator and a secondary simulator, said  
4 computer program product including instructions executed by the computer  
5 system to cause the computer system to perform the steps of:  
6           defining a plurality of user selected optimization control signals over  
7 said cosimulation bridge;  
8           identifying at least one user selected optimization control signal for  
9 disabling said cosimulation bridge; and  
10          dynamically disengaging said primary simulator and said secondary  
11 simulator for ending data exchange responsive to said disabling said  
12 cosimulation bridge.

1           18.    A computer program product for implementing dynamic  
2    cosimulation as recited in claim 17 wherein said instructions further cause  
3    the computer system to perform the steps of checking for said identified  
4    optimization control signal being inactive and responsive to said identified at  
5    least one user selected optimization control signal being inactive for enabling  
6    said cosimulation bridge and dynamically re-engaging said primary simulator  
7    and said secondary simulator for data exchange.